More Superfund Information

The Superfund program was established by Congress in 1980 to respond to chemical emergencies and investigate and clean up uncontrolled or abandoned hazardous waste sites. The Superfund program is administered by the Environmental Protection Agency (EPA) in cooperation with individual states and tribal government. Once a hazardous waste site has been reported, EPA screens the site to determine if action is necessary. If a site poses an immediate threat to human health or the environment or may cause a threat in the near future, EPA will take a "removal action." Typically, these actions are taken to prevent direct human contact with contaminants, remove hazardous materials from the site, and prevent contaminants from spreading off the site. Sites that have extensive contamination are placed on EPA's National Priorities List (NPL) for further investigation and cleanup. Once a site is placed on the NPL, it is investigated to determine the nature and extent of the contamination, the health and environmental risks posed by the site, and options for cleaning it up. EPA then proposes cleanup options to the community and asks for public comment on all the options. Once the comments are considered, EPA selects a cleanup option for the site and works toward cleanup up the site. Cleanup may involve treating, removing or containing the hazardous wastes in order to protect the people that live around the site and the environment.

Text from What is Superfund? in the EPA Region 10 brochure Cleanup of the Bunker Hill Superfund Site: An Overview, September 1994.

More Superfund Information

EPA Superfund Publications can be found at the National Technical Information Service NTIS. A Citizen's Guideto EPA's Superfund Program. EPA's main Superfund information page.

Bunker Hill Superfund Site, Kellogg, Idaho

Historical Overview The Bunker Hill Superfund Site is a former mining and smelting complex located in Kellogg, Idaho, along I-90 in the Silver Valley in northern Idaho. The site is 21 square miles in size (the box) and affects approximately 5,000 people. It is one of the largest and most complex abandoned hazardous waste sites in the nation. The site was contaminated by years of mining and smelting processes in the area. Mining began in the area in the late 1800s and smelting operations followed in the early 1900s. The mines and smelters produced lead, zinc, cadmium, silver, gold, and alloys of these heavy metals. Lead, arsenic, cadmium, and zinc are the primary contaminants at the Bunker Hill site. Among the sources of the contamination are the mine

tailings, past air emissions, smelter complex materials and residuals, acid mine drainage and inflow of contaminants from other upstream mining and milling operations. In 1973, a fire at the smelter damaged the air emissions controls and dramatically increased the lead emissions from the smelter until repairs were completed. A survey in 1974 found that 98 percent of 1- to 9-year-old children living within 1 mile of the smelter had blood lead levels in excess of 40 g/d. The smelter and other bunker Hill company activities ceased operation in late 1981. Some limited mining operations have been performed at Bunker Hill by various entities since that time. The site was placed on the National Priorities List (Superfund) on September 8, 1983. Effects of Contaminants The metals that contaminated the site have both health and environmental effects. Lead, arsenic, cadmium, and zinc are the contaminants of primary concern for human health at Bunker Hill. Small children and pregnant women, particularly, should be warned about the neurologic effects of lead. Childhood lead toxicity may have permanent effects including decreased intelligence quotient scores, impaired hearing, and reduced growth. Arsenic exposure can increase cancer risk, cause skin problems, and blood and nerve disorders. Cadmium at high levels can severely damage the lungs while lower levels can lead to kidney disease. Zinc exposure can cause stomach and digestive problems. It may also interfere with the immune system. The soils, water, and air in the area have been contaminated by the metals. In addition, much of the soil on hillsides in the Bunker Hill Industrial Complex has eroded since the clearing of trees nearly 100 years ago. The trees have been unable to re-establish on their own in many areas due to the metals and the lack of soil. Cleanup Because of the size and nature of the site, the site was divided into two operable units, Populated Areas and Non-Populated Areas. Work in the Populated Areas is being performed by potentially responsible parties (PRPs), primarily upstream mining companies, under the terms of a Consent Decree signed in 1994. Work involves the removal of contaminated soils in residential areas and public use areas throughout the 21-square-mile area to a nominal depth and replacement with clean fill and either sod or gravel. As of 2001 approximately 700 properties remain to be cleaned up. The mining companies have not been able to continue productivity at previous rates. For this reason the USEPA has tasked the Corps of Engineers with completion of some of the residential remediation. Work in the Non-Populated Areas has been performed primarily by contractors under contract to the U.S. Army Corps of Engineers (Corps) who is responsible for construction management of the remedial action activities in the area. The work involved:

- the demolition of close to 200 structures in the Bunker Hill Industrial Complex;
- the removal of contaminated soils and other materials from the complex;
- the construction and closure of a disposal cell in the complex developed

and used for the disposal of debris and contaminated materials from the complex;
- the remediation of numerous gulches and stream channels in the complex;
- erosion control and re-vegetation of the hillsides in and around the complex;
- the removal of approximately 1.5 million cubic yards of contaminated soils, tailings, and other materials from the Smelterville Flats area;
- and the closure of a 240-acre tailings impoundment area known as the Central Impoundment Area (CIA).

Current Status

The demolition of close to 200 structures in the lead smelter complex, zinc plant, and the phosphoric acid fertilizer plant has been completed. As part of this work, two large concrete stacks, 715 feet and 610 feet tall, respectively, along with two smaller stacks, were demolished using explosives. The 715-foot-tall stack is the tallest stack ever to be demolished using explosives in North America. The stacks were demolished as part of a civic celebration during Memorial Day weekend, 1996. The event attracted over 8,000 people, was televised live in the local regional area, and received extensive media coverage throughout the Nation. The demolition work has been completed at a cost savings of approximately $4 million. In 1999 removal of the contaminated soils and materials from the Industrial Complex area along with remediating the numerous gulches and stream channels in the complex was completed. Approximately 1.2 million cubic yards of contaminated soils, tailings and other material were removed from the Smelterville Flats area and transported to the 240-acre CIA in 1998 and 1999. The CIA was then capped and closed in 2000 and 2001.

Agencies Involved

A partnering agreement among the Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers, and the State of Idaho Department of Health and Welfare, Division of Environmental Quality defines the respective cleanup responsibilities for this site.

EPA Superfund site for Bunker Hill

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